

Application S/N 10/806,644
Amendment Dated: April 27, 2006
Response to Office Action dated: December 2, 2005

CE12694JME

REMARKS/ARGUMENTS

Claims 1-17 remain pending in the application. In the Office Action, claims 1, 2, 7, 9, 11, 13, 16 and 17 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,411,199 to Suppelsa, et al. (Suppelsa). Claim 3 was rejected under 35 U.S.C. 103(a) as being unpatentable over Suppelsa in view of U.S. Patent No. 5,620,927 to Lee (Lee). Also, claims 4-6, 10, 14 and 15 were rejected under 35 U.S.C. 103(a) as being unpatentable over Suppelsa in view of U.S. Patent No. 5,346,118 to Degani, et al. (Degani). Finally, claim 8 was rejected under 35 U.S.C. 103(a) as being unpatentable over Suppelsa in view of U.S. Patent No. 5,167,361 to Liebman, et al. (Liebman).

Independent claims 1 and 9 recite the element that reflowing the substrate simultaneously provides solder joints for the components and a selectively solder clad area over the conductive shield track. Suppelsa does not disclose, mention, illustrate or even suggest such a concept. In particular, in Suppelsa, in step 302 of FIG. 4, solder perform is merely placed on one side of the heat sink, which permits the substrate to be attached to the heat sink after a first reflow process (see col. 2, lines 55-64). In step 310 of FIG. 4, solder is placed on one side of the sheet of metal that will form the shield. Solder is not placed on the sides of the heat sink until the sheet of metal containing the solder is formed into the shield and press fit with the heat sink (see col. 3, lines 4-20). That is, the portion of the heat sink that receives the substrate receives solder long before the sides of the heat sink that are press fit with the shield do.

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The present invention calls for solder joints for the electrical components and the shield track to be provided substantially simultaneously. This process reduces the clearance requirements of the shield track, eliminates an additional step in the manufacturing process (the step of placing solder on the shield track at a later time) and can accommodate non-coplanarity of a shield through adjustment of solder volume. None of these advantages are envisioned by Supplea.

Independent claims 13 and 17 have been amended to clarify that the conductive shield track serves the electrical function of ground. Support for the amendments can be found in paragraph 0024, and no new matter has been added. Supplea simply does not contemplate such a feature. Specifically, the Examiner has attempted to equate the sides of the heat sink in Supplea with the conductive shield track of the present invention. The heat sink in Supplea, however, is designed to dissipate heat, and does not serve as ground. Those of skill in the art will appreciate that a heat sink is isolated from other portions of the circuit board on which it sits, including a ground plane. If the heat sink were not isolated, then the heat from the heat sink would merely be transferred to other portions of the circuit board, possibly damaging them.

As such, Applicant submits that independent claims 1, 9, 13 and 17 are patentable over the prior art. Applicant also believes that those claims that depend from these independent claims are patentable, both based on their dependencies on the independent claims and their patentability on their own. Reconsideration and withdrawal of the rejection of the claims is respectfully requested. Passing of this case is now believed to be in order, and a Notice of Allowance is earnestly solicited.

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No amendment made was related to the statutory requirements of patentability unless expressly stated herein. No amendment made was for the purpose of narrowing the scope of any claim, unless Applicant has argued herein that such amendment was made to distinguish over a particular reference or combination of references.

In the event that the Examiner deems the present application non-allowable, it is requested that the Examiner telephone the Applicant's attorney or agent at the number indicated below so that the prosecution of the present case may be advanced by the clarification of any continuing rejection.

The Commissioner is hereby authorized to charge any necessary fee, or credit any overpayment, to Motorola, Inc. Deposit Account No. 50-2117.

Respectfully submitted,

SEND CORRESPONDENCE TO:

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